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WHAT IS CLAIMED IS:

1. A method for self-regulating quality of service in a communications network, comprising:
  - measuring the amount of jitter of a first media stream received in a router;
  - comparing the amount of jitter of the first media stream received in the router to the amount of jitter of at least one other media stream received in the router; and
  - prioritizing the timing of the transmission of a packet of the first media stream from the router based at least in part on the results of the comparing step.
2. The method of Claim 1, wherein the packet is a voice packet.
3. The method of Claim 1, further comprising storing the measurement of jitter of the first media stream and the at least one other media stream.
4. The method of Claim 1 wherein the step of prioritizing includes optimizing quality of service.

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5. The method of Claim 1, wherein the step of prioritizing includes timing the transmission of the packet from the first media stream before the transmission of a packet from the at least one other media stream when the first media stream has a greater amount of jitter than the at least one other media stream.

6. The method according to Claim 1 further comprising:  
receiving at the first router a measurement of the amount of jitter associated with the first media stream at a second router; and  
prioritizing the timing of the transmission of the packet in the first media stream from the first router toward the second router based at least in part on the amount of jitter associated with the first media stream at the second router.

7. The method according to Claim 6 wherein the packet is a voice packet.

8. The method of Claim 1 wherein the first media stream has traversed through a plurality of routers, wherein the step of measuring comprises determining the number of routers through which the packet has traversed and wherein the number of routers represents the amount of jitter.

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9. A method for self-regulating quality of service in a communications network having a communication path between at least a first router and a third router via a second router, comprising:

receiving a measurement of the amount of jitter associated with a media stream at at least the third router; and

prioritizing the timing of the transmission of a packet in the media stream from at least the first router toward at least the third router via the second router based at least in part on the amount of jitter associated with the media stream at the third router.

10. The method according to Claim 9 wherein the amount of jitter associated with the media stream at the third router is communicated to the first router.

11. The method according to Claim 9, wherein the third router prioritizes the timing of the transmission of the packet from the first router.

12. The method according to Claim 9 further comprising:  
measuring the amount of jitter associated with the media stream at the third router; and  
communicating the amount of jitter measured at the third router to the first router.

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13. The method according to Claim 9 wherein the receiving and prioritizing occur at a central server.

14. The method of Claim 9 wherein the media stream has traversed through a plurality of routers, wherein the measurement of the amount of jitter comprises the determination of the number of routers through which the packet has traversed and wherein the number of routers represents the amount of jitter.

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15. A method for self-regulating quality of service in a communications network, comprising:

measuring the amount of jitter of a first media stream received in a first router;

comparing the amount of jitter of the first media stream received in the first router to the amount of jitter of at least one other media stream received in the first router;

receiving at the first router a measurement of the amount of jitter associated with the media stream at a third router;

prioritizing the timing of the transmission of a voice packet in the media stream from the first router via a second router toward the third router based at least in part on the results of the comparing step and at least in part on the amount of jitter associated with the media stream at the third router; and

storing the measurement of jitter of the first media stream and the at least one other voice media stream.

16. The method according to Claim 15, further comprising measuring the amount of jitter associated with the media stream at the third router that is to receive the voice packet.

17. The method of Claim 15 wherein the step of prioritizing includes optimizing quality of service.

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18. The method of Claim 15, wherein the step of prioritizing includes timing the transmission of the voice packet before the transmission of a voice packet in the at least one other media stream when the first media stream has a greater amount of jitter than the at least one other media stream.

19. The method of Claim 15 wherein the first media stream has traversed through a plurality of routers, wherein the step of measuring comprises determining the number of routers through which the packet has traversed and wherein the number of routers represents the amount of jitter.

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20. A system for self-regulating quality of service in a communications network, comprising:

means for measuring the amount of jitter of a first media stream received in a router;

means for comparing the amount of jitter of the first media stream received in the router to the amount of jitter of at least one other media stream received in the router; and

means for prioritizing the timing of the transmission of a packet in the media stream from the router based at least in part on the results of the comparing step.

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21. Logic encoded in media for self-regulating quality of service in a communications network, comprising the logic operable to at least:

measure the amount of jitter of a first media stream received in a router;

compare the amount of jitter of the first media stream received in the router to the amount of jitter of at least one other media stream received in the router; and

prioritize the timing of the transmission of a packet in the media stream from the router based at least in part on the results of the comparing step.



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22. A system for self-regulating quality of service in a communications network having a communications path between at least a first router and a third router via a second router, comprising:

means for receiving a measurement of the amount of jitter associated with a media stream at the third router; and

means for prioritizing the timing of the transmission of a packet in the media stream from the first router via the second router toward the third router based at least in part on the amount of jitter associated with the media stream measured at the third router.

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23. Logic encoded in media for self-regulating quality of service in a communications network having a communications path between at least a first router and a third router via a second router, comprising the logic operable to at least:

receive a measurement of the amount of jitter associated with a media stream at a third router; and

prioritize the timing of the transmission of a packet in the media stream from a first router via a second router toward the third router based at least in part on the amount of jitter associated with the media stream measured at the third router.